STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
State Revolving Fund Loan Program
L & C Tower, 8th Floor
401 Church Street
Nashville, TN 37243

FINDING OF NO SIGNIFICANT IMPACT
Approval of Facilities Plan
Hohenwald (Lewis County), Tennessee
Loan No. CWA 2008-219

May 29, 2009

The National Environmental Policy Act requires federally designated agencies to determine whether a proposed major agency action will significantly affect the environment. One such major action, defined by Section 511(c)(1) of the Clean Water Act, is the approval of a facilities plan prepared pursuant to Title VI of the Clean Water Act. In making this determination, the State Revolving Fund (SRF) Loan Program assumes that all facilities and actions recommended by the plan will be implemented. The state's analysis concludes that implementing the plan will not significantly affect the environment; accordingly, the SRF Loan Program is issuing this Finding of No Significant Impact (FNSI) for public review.

The City of Hohenwald has completed the facilities plan entitled "Facilities Planning Document, Slow Rate Land Treatment Facility for the Hohenwald, Tennessee Wastewater Treatment Plant and Sewage Collection System" dated September 2008 and Amendment Number 1 to the Facilities Plan dated May 18, 2009. The facilities plan provides recommendations for improvements to the wastewater treatment system serving the City of Hohenwald. This project includes construction of a Slow Rate Land Treatment Facility (SRLT) consisting of lagoons and effluent application to the land through a network of spray fields to replace the existing wastewater treatment plant (WWTP). The project also includes replacing existing 10-inch and 12-inch diameter gravity sewers upstream of the existing WWTP with 15-inch diameter sewer lines, and paralleling an existing 15-inch diameter sewer that enters the WWTP with a new 18-inch diameter sewer. The project also includes elimination of three existing sewage pumping stations by constructing gravity sewers and a new pumping station to replace the three existing pumping stations. The total estimated project cost is $8,900,000. A State Revolving Fund loan in the amount of $8,400,000 has been requested for this project.

Attached is an Environmental Assessment containing detailed information supporting this proposed action. Comments supporting or disagreeing with this proposed action received within 30 days of the date of this FNSI will be evaluated before we make a final decision to proceed. If you wish to comment or to challenge this FNSI, send your written comment(s) to:

Mr. Sam R. Gaddipati, Environmental Manager
State Revolving Fund Loan Program
Tennessee Department of Environment and Conservation
L & C Tower, 8th Floor
401 Church Street
Nashville, TN 37243

or contact him by telephone at (615) 532-0445 or by e-mail at sam.gaddipati@tn.gov

ENVIRONMENTAL ASSESSMENT
Hohenwald (Lewis County), Tennessee
Loan No. CWA 2008-219

May 29, 2009

A. PROPOSED FACILITIES AND ACTIONS; FUNDING STATUS

The City of Hohenwald has completed the facilities plan entitled "Facilities Planning Document, Slow Rate Land Treatment Facility for the Hohenwald, Tennessee Wastewater Treatment Plant and Sewage Collection System" dated September 2008 and Amendment Number 1 to the Facilities Plan dated May 18, 2009. The facilities plan provides recommendations for improvements to the wastewater treatment system serving the City of Hohenwald. This project includes construction of a Slow Rate Land Treatment Facility (SRLT) consisting of lagoons and effluent application to the land through a network of spray fields to replace the existing wastewater treatment plant (WWTP). The project also includes replacing existing 10-inch and 12-inch diameter gravity sewers upstream of the existing WWTP with 15-inch diameter sewer lines, and paralleling an existing 15-inch diameter sewer that enters the WWTP with a new 18-inch diameter sewer. The project also includes elimination of three existing sewage pumping stations by constructing gravity sewers and a new pumping station to replace the three existing pumping stations. The facilities planning area and project location are indicated on Figures No. 1 and No. 2 of this Environmental Assessment. Descriptions of the proposed facilities and actions included in this project are listed below:

TREATMENT FACILITIES

The proposed SRLT facility consists of an aerated complete mix lagoon, three storage lagoons, chlorine disinfection, and effluent pumping to spray fields for land application and treatment. Sewage will continue to enter the headworks at the existing WWTP. An 18-inch diameter sewer line will be installed from the existing headworks to the new SRLT facility. The remainder of the existing WWTP will be abandoned.

COLLECTION SYSTEM/INTERCEPTORS

The project includes elimination of three existing sewage pumping stations by constructing gravity sewers and a new pumping station to replace the three existing pumping stations. Upstream of the existing WWTP, a 10-inch diameter sewer line and a 12-inch diameter sewer line converge into a 15-inch diameter sewer line to transport the flow from the Hohenwald collection system to the existing WWTP. The project also includes replacing the 10-inch and 12-inch diameter sewer lines upstream of the existing WWTP with 15-inch diameter sewer lines. A new 18-inch diameter sewer line will be installed parallel to the existing 15-inch diameter sewer line. The existing 15-inch diameter sewer line, along with the new 18-inch diameter sewer line, will transport flows from the Hohenwald collection system to the WWTP.

FUNDING STATUS

The facilities described above comprise the scope of American Recovery and Reconstruction Act 2009 (ARRA)/Clean Water State Revolving Fund Loan No. 2008-219 scheduled for funding in fiscal year 2009. The estimated project costs are summarized in the following tabulation:

PROJECT CLASSIFICATIONS	COSTS ($)
Administrative & Legal	34,000
Land Costs & Appraisals	760,000
Planning Fees	100,000
Design Fees	384,000
Engineering Basic Fees	10,000
Other Engineering Fees	81,500
Resident Inspection	336,000
Construction	6,418,000
Contingencies	776,500
TOTAL	**8,900,000**
State Revolving Fund Loan	8,400,000
CDBG	500,000

The City of Hohenwald has applied for a $8,400,000 State Revolving Fund loan. A $500,000 Community Development Block Grant will fund the remainder of the project's costs.

B. EXISTING ENVIRONMENT

The City of Hohenwald's Planning Area is located in Lewis County in middle Tennessee. A discussion of existing environmental features in the area includes the following:

SURFACE WATERS

The major source of surface water in the Hohenwald Planning Area is the Buffalo River. The Buffalo River is generally L-shaped, beginning in Lawrence County and flowing westward for 60 miles before turning northward and flowing to its confluence with the Duck River near its junction with the Tennessee River. Other surface waters in the planning area include Rockhouse Creek, Hinson Hollow Branch, Blondy Hollow, and several minor unnamed tributaries to these streams. Rockhouse Creek receives the effluent from the Hohenwald secondary sewage treatment plant via a small tributary which enters at River Mile 9.5. There are no significant natural lakes or impoundments within the planning area.

GROUNDWATER

Wells in Lewis County obtain water either from the many water-filled open spaces in the overburden (weathered rock materials) or from the water-filled cracks and crevices in the limestone bedrock. Information obtained from the Division of Water Supply indicates that there are approximately 915 wells in Lewis County. The chemical quality of all wells used for public water supply is within established limits for public usage. Depth for the wells range from 11 to 340 feet with an average depth of approximately 169 feet. Approximately 86 percent of wells in Lewis County yield 3 gallons per minute (GPM) or more. The percent of wells obtaining good water (containing no sulfur, iron, salt, oil, or gas) in Lewis County is approximately 95. Raw

water for the City of Hohenwald's public water supply is obtained from one spring and two wells.

SOILS

The City of Hohenwald's Planning Area lies in the physiographic division known as the Western Highland Rim. It is underlain by limestone of Mississipian age with a residual covering of cherty red soil. The predominant soils in the planning area belong to the Mountview Dickson and Bodine soil associations. Most of the soils overlie cherty limestone. The Mountview Dickson soil has a 20- to 42-inch layer of loess that overlies cherty limestone residuum. Dickson soils make up about 60 percent of the association and occupy the lower slopes or occur in slight depressions. The other soil type prevalent in the planning area is Bodice. This excessively drained permeable soil has formed from cherty materials and occurs on sloping upland ridges. The water holding capacity is low with rapid surface runoff and internal drainage.

TOPOGRAPHY

The Highland Rim terrain ranges from undulating to steep slopes with a large portion of the hills and steep lands occupying the stream valleys. Based on the Hohenwald Quadrangle map, the elevation of these hills and valleys in the planning area range from 700 to 1,000 feet above mean sea level (MSL).

OTHER ENVIRONMENTAL FEATURES

No wild or scenic rivers or unique agricultural, scientific, cultural, ecological, or natural areas were identified in the City of Hohenwald's Planning Area.

C. EXISTING WASTEWATER FACILITIES

The collection system serving the City of Hohenwald consists of approximately 137,000 linear feet (LF) of 8-inch through 15-inch diameter gravity sewers and 13 sewage pumping stations. Construction of the collection system spans several decades with vitrified clay and concrete pipe being the early materials of choice (1939-1965) and polyvinylchloride (PVC) pipe being installed in the later years. The collection system can be divided into 13 drainage basins.

The City of Hohenwald presently has a 1.1 MGD WWTP. The existing WWTP unit processes consist of an influent screen with one quarter inch openings, a 12-inch diameter parshall flume, two aerated grit chambers, a three train vertical loop reactor (VLR), a 55-foot diameter final clarifier, gas chlorine injection for disinfection, gas sulfide dioxide injection for dechlorination, effluent flow measurement with a weir, mechanical post aeration, and gravity outfall to Rockhouse Creek. The Hohenwald WWTP discharges treated effluent to Rockhouse Creek at River Mile 9.5 under authority of NPDES permit No. TN0020087. Flow blending is utilized at the WWTP for flows in excess of 1.1 million gallons per day (MGD) by diverting excess primary treated flow around the vertical loop reactor directly to the final clarifier. All flows through the WWTP receive chlorine disinfection.

The WWTP produces Class B biosolids using aerobic digestion. The sludge is land applied in liquid form on local pasture land that the City has permitted.

The WWTP currently operates under the National Pollutant Discharge Elimination System (NPDES) Permit No. TN000020087 that includes the following parameters and effluent limitations:

PARAMETER	EFFLUENT LIMITATIONS
$CBOD_5$	25 milligrams per liter (mg/l)
Suspended Solids	30 mg/l
Fecal Coliform	200/100 colonies per milliliter
Dissolved Oxygen	6.0 instantaneous minimum
Ammonia as N (May 1-October 31)	1.3 mg/l
Ammonia as N (Nov. 1-April 30)	2.0 mg/l
Chlorine Residual, Total	0.02 instantaneous maximum
Settleable Solids	1.0 daily maximum (milliliter/liter)
pH	6.5-8.5 (Standard Units)

D. NEED FOR PROPOSED FACILITIES AND ACTIONS

The Tennessee Department of Environment and Conservation (TDEC) issued enforcement action against the City of Hohenwald in the form of Agreed Order No. 06-0038 requiring that a solution be implemented to remedy violations at the existing WWTP. The majority of the violations occurred as a result of peak flows to the WWTP caused by severe rainfall during October, November, and December of 2004. Permit limits were violated 25 times from August 2002 through February 2005, leading to the Agreed Order. Permit limits were violated for settleable solids, total suspended solids (TSS) daily concentration, TSS average mass, TSS daily percent removal, TSS monthly average percent removal, ammonia daily concentration, ammonia weekly average concentration, and dissolved oxygen daily concentration.

EXISTING AND PROJECTED FACILITY CONDITIONS

POPULATION	EXISTING (2010)	PROJECTED (2030)
City of Hohenwald	4,130	5,534
% Sewered	86	86
Planning Area Excluding Hohenwald	710	950
% Sewered	0	50
Total Planning Area	4,840	6,484
% Sewered	73.4	80.7

Hohenwald WWTP FLOWS (Gallons Per Day)	EXISTING (2010)	PROJECTED (2030)
Residential	465,000	623,000
Commercial	96,400	129,200
Industrial	50,000	67,000
Infiltration/Inflow	298,300	200,000
TOTAL	909,700	1,019,200

The City of Hohenwald currently devotes two full-time employees to sewer system rehabilitation. The City has acquired sewer television inspection equipment to determine the condition of its existing sewer lines, and based on inspection results, will repair the most deficient areas. Per the draft State Operating Permit (SOP) Permit offered for public notice on April 6, 2009, planning standards for City's proposed WWTP have been established and are listed below:

PARAMETER	EFFLUENT LIMITATIONS
$CBOD_5$	65 milligrams per liter (mg/l)
Fecal Coliform	941/100 colonies per milliliter
Ammonia as N	Report
Total Nitrogen as N	Report
Flow	Report

E. ALTERNATIVES ANALYSIS

Several alternatives, including a "No-action" alternative, were evaluated for wastewater treatment and management in the September 2008 facilities plan. A summary discussion of the evaluation of each alternative for wastewater treatment and the effluent discharge location and the selection of the recommended plan follows. All action alternatives include upsizing the interceptors upstream of the WWTP and installing gravity sewers to eliminate the three sewage pumping stations. This work is necessary to reduce the amount of Infiltration and Inflow entering the WWTP.

NO ACTION

The "No-action" approach was not a viable alternative. The state and federal governments have issued discharge limitations that must be met in order to maintain or improve surface water conditions. These parameters cannot be met by the facilities as they now exist. Therefore, some action must be taken to protect the environment and public health, and this alternative was rejected.

ALTERNATIVES FOR TREATMENT

Renovate and Expand Existing WWTP to 1.4 MGD Using Oxidation Ditch Technology

This alternative would involve adding an equalization basin at the existing WWTP, constructing a new inflow diversion pumping station, headworks modifications, conversion of the existing

VLR to an oxidation ditch, constructing a new oxidation ditch, constructing a new final clarifier, and constructing a new return sludge pumping station. Site piping and valves, instrumentation and valves, and electrical work would also be required. This alternative was not the most cost-effective and was rejected.

Renovate Existing WWTP and Pump Effluent to the Tennessee River

This alternative would involve adding an equalization basin at the existing WWTP, constructing a new inflow diversion pumping station, headworks modifications, conversion of the existing VLR to an oxidation ditch, constructing a new final clarifier, and constructing a new return sludge pumping station. Site piping and valves, instrumentation and valves, and electrical work would also be required. Approximately 132,000 LF of 16-inch diameter force main and approximately 50 air release valves would be required to pump the WWTP effluent to the Tennessee River. This alternative was not the most cost-effective and was rejected.

Construct a New 2.0 MGD Slow Rate Land Treatment Facility

This alternative consists of continuing to use the headworks at the existing WWTP with the construction of an 18-inch pipeline from the existing headworks to the new lagoon treatment system. The treatment system would consist of an aerated complete mix lagoon, three storage lagoons, effluent pumping with chlorine disinfection, and effluent spray fields. This alternative was determined to be the most cost-effective and was selected.

SLUDGE TREATMENT/DISPOSAL

Biological solids will settle in the bottom of the storage lagoons and will anaerobically degrade. Sludge will accumulate and will be removed periodically. That time is highly dependent on wasteloading. Sludge can be removed by taking a storage lagoon out of service and allowing the bottom to air dry at which point the sludge can be removed and transported to a state approved disposal site. Interconnecting piping in the storage lagoons will allow any storage lagoon to be taken out of service while the other two remain in service.

F. ENVIRONMENTAL CONSEQUENCES; MITIGATIVE MEASURES

The environmental benefits of this project will be a reduction in permit violations and the improvement of water quality conditions in the area.

During the construction phase, short-term environmental impacts due to noise, dust, mud, disruption of traffic, runoff of silt with rainfall, etc., are unavoidable. Minimization of these impacts will be required; however, many of these minimization measures will be temporary and only necessary during construction. Using the following measures to prevent erosion will minimize impacts on the environment:

1. Specifications will include temporary and permanent measures to be used for controlling erosion and sediment.
2. Soil or landscaping maintenance procedures will be included in the specifications.

3. The contractor will develop an Erosion Control Plan. It will contain a construction schedule for each temporary and permanent measure controlling erosion and sediment. It will include the location, type, and purpose for each measure and the times when temporary measures will be removed or replaced.

These measures, along with requiring the contractor to return the construction site to as-good-as or better-than its original condition, will prevent any adverse impacts due to erosion.

Future discharges from the new Hohenwald WWTP will be in compliance with all Waste Load Allocations (WLAs) assigned in any relevant approved/established Total Maximum Daily Loads (TMDLs) that have been developed for this watershed. The proposed action will also comply with all relevant Phase I and/or Phase II stormwater regulations, including ensuring adequate sediment control and implementation of best management practices.

No prime or unique agricultural lands or wetlands were identified and therefore will not be adversely affected. No endangered species of flora or fauna were identified within the proposed construction corridor. Effects on flora and fauna will be confined and temporary.

No adverse impacts on the floodplain are anticipated since only buried pipe is proposed in the floodplain.

No endangered species of flora or fauna were identified within the proposed construction corridor. Effects on flora and fauna will be confined and temporary.

Archaeological assessments of the project area and acquisition of applicable United States Army, Corps of Engineers, permits will be required prior to the approval of construction plans and specifications. Any findings that must be preserved shall be removed/protected/preserved in accordance with state and federal laws, regulations, and/or policies.

G. PUBLIC PARTICIPATION; SOURCES CONSULTED

A Public Meeting was held on February 26, 2009, at 7:00 p.m., local time. The selected plan for wastewater treatment and user charges were described to the public, and their input was received. This agency is not aware of any unresolved public objections that may have been voiced before or after the public meeting regarding this project.

The annual median household income for the City of Hohenwald is $24,275.00. The current sewer user rate for the typical residential user (5,000 gallons per month) will increase from $29.73 to $30.62 per month on July 1, 2009, to $31.54 per month on July 1, 2010, and to $32.49 on July 1, 2011. The total incremental annual cost for this project is $33.12, which is approximately 0.14 percent of the current annual household median income.

Sources consulted about this project for information or concurrence were:

1. Tennessee Department of Agriculture
2. Tennessee Department of Economic and Community Development (ECD)
3. TDEC, Division of Air Pollution Control (DAPC)
4. Tennessee Department of Transportation (TDOT)
5. TDEC, Division of Groundwater Protection (DGWP)
6. Tennessee Historical Commission
7. TDEC, Division of Archaeology (DA)
8. TDEC, Division of Natural Areas (DNA)
9. TDEC, Division of Solid Waste Management (DSWM)
10. TDEC, Division of Water Pollution Control (DWPC)
11. TDEC, Division of Water Supply (DWS)
12. Tennessee Wildlife Resources Agency (TWRA)
13. United States Army Corps of Engineers (USACE)
14. United States Fish and Wildlife Service (USF&W)
15. City of Hohenwald
16. Lewis County
17. J.R. Wauford and Co., Nashville, TN

H. SPECIAL CONDITION

The State Revolving Fund loan agreement will have the following special condition:

A qualified archaeologist shall conduct an archaeological assessment for the potential presence of intact cultural resources (including human burials) in the proposed project area. Copies of the assessment and findings must be submitted to the Tennessee Historical Commission (Jennifer Bartlett, 615-741-1588), the Division of Archaeology (Mark Norton, 615-741-1577) and the State Revolving Fund Loan Program (David Shell, 615-532-0480). Any findings that must be preserved shall be removed/protected/preserved in accordance with state and federal laws, regulations, and/or policies.